

REMARKS/ARGUMENTS

Claims 1-46 were pending in this application. Claims 1, 12, 23, 34 and 45-46 have been amended. New claims 47-50 have been added. Therefore, after entry of the foregoing claim amendments, claims 1-50 will be pending and under consideration.

No new matter is being presented, and approval of the amended claims is respectfully requested.

Claim Rejections – 35 USC § 102

Claims 1-6, 8, 12-14, 16-17, 19, 23-28, 34-36, 38-39, 41 and 45-46 are rejected under 35 USC § 102(b), as being anticipated by Kim et al. (U.S. Patent No. 6,2199,374) (hereinafter “Kim”). Applicant respectfully traverses the rejections, and reconsideration is requested. The following is a comparison between embodiments of the present invention and the cited reference.

Independent claim 1, for example, is amended herein to recite “a processing subsystem; and a transmitter subsystem coupled to the processing subsystem; wherein the processing subsystem is configured to cover different portions of an initial data stream, each portion comprising an I/Q pair of modulated symbols, to be transmitted on a first wireless communication channel with at least two different spreading codes such that each spreading code covers each I/Q pair”. (See Fig. 4, reference numeral 471, of the present application for support).

Kim, on the other hand, discloses that the I channel signals into which pilot symbols are periodically added are spread by a Wash code $W^I(n)$ at the first mixer 104 and the Q channel is spread by a Walsh code $W^Q(n)$ at the second mixer 105. The I channel signal spread by a Walsh code is spread by PN code $C(n)$ at the third mixer 106 and the Q channel signal is spread by PN code $C(n)$ at the fourth mixer 107 (see Kim, column 3, lines 35-41).

Thus, Kim clearly discloses different Walsh codes used respectively to cover the different I and Q channels. That is, the I and Q channels are first divided using the Serial/Parallel Converter 101 before Walsh codes are applied to each channel. One Walsh code is applied to the I channel and a different Walsh code is applied to the Q channel. Hence, there is no spreading code that covers an I/Q pair, as recited in amended independent claim 1. Nor is there at least two different spreading codes, each spreading code covering each I/Q pair. Therefore, it

is respectfully submitted that amended independent claim 1 patentably distinguishes over the cited art.

Independent claim 23, as amended, recites features substantially similar to those described above for independent claim 1, and independent claims 12 and 34 recite decod[ing] different portions of the initial data stream, each portion comprising an I/Q pair of modulated symbols using at least two different spreading codes such that each spreading code is applied to each I/Q pair. Therefore, it is respectfully submitted that all the pending independent claims, as well as the claims depending therefrom, patentably distinguish over Kim for at least the reasons provided herein.

Claims 1-10 and 23-32 are rejected under 35 USC § 102(e) as being anticipated by Wiberg et al. (U.S. 2002/0172264) (hereinafter “Wiberg”). Applicant respectfully traverses the rejections, and reconsideration is requested. The following is a comparison between embodiments of the present invention and the cited reference.

As stated above, independent claims 1 and 23 recite covering different portions of an initial data stream, each portion comprising an I/Q pair of modulated symbols to be transmitted on a first wireless communication channel with at least two different spreading codes such that each spreading code covers each I/Q pair.

Wiberg, on the other hand, generally discloses a common channelization code C 230 wherein both branches I and Q (separately) are spread (220/225) to the chip rate by a real-valued channelization code C 230. (See Wiberg, paragraph [0025]). Wiberg clearly discloses different codes used for the each of the I and Q channels and, thus, suffers the same deficiencies as Kim, described above.

Therefore, it is respectfully submitted that independent claims 1 and 23, as well as the claims depending therefrom, patentably distinguish over Wiberg for at least the reasons provided above with respect to Kim.

Claims 1-6, 8-10, 23-28 and 30-32 are rejected under 35 USC § 102(a) as being anticipated by Proctor, Jr. et al. (U.S. 2003/0035466) (hereinafter “Proctor”). Applicant respectfully traverses the rejections, and reconsideration is requested. The following is a comparison between embodiments of the present invention and the cited reference.

As stated above, independent claims 1 and 23 recite covering different portions of an initial data stream, each portion comprising an I/Q pair of modulated symbols to be transmitted

on a first wireless communication channel with at least two different spreading codes such that each spreading code covers each I/Q pair.

Proctor, on the other hand, discloses a modulator 580 that provides an in-phase (i) and quadrature (q) signal path to a first pair of multipliers 506-i and 506-q. (See Proctor, paragraph [0058]). As shown in Fig. 4 of Proctor, each of the “i” modulation signal and the “q” modulation signal is separately processed by multipliers 506, 512 and 508. Proctor clearly discloses separate processes used for the different I and Q channels and, thus, suffers the same deficiencies as Kim and Wiberg, discussed above.

Therefore, it is respectfully submitted that independent claims 1 and 23, as well as the claims depending therefrom, patentably distinguish over Proctor for at least the reasons provided above with respect to Kim and Wiberg.

Claim Rejections – 35 USC § 103

Claims 9, 10, 15, 20, 21, 30, 31, 37, 42 and 43 are rejected under 35 USC § 103(a) as being unpatentable over Kim in view of Sato (U.S. Patent No. 6,574,205), Wiberg or Dahlman et al. (U.S. Patent No. 6,222,875). Applicant respectfully traverses the rejections, and reconsideration is requested.

The pending dependent claims inherit the patentability of their respective base claims, which patentably distinguish over Kim and Wiberg for the reasons provided above. It is further submitted that neither Sato nor Dahlman et al. cures the deficiencies of Kim and Wiberg described above. Therefore, it is respectfully submitted that claims 9, 10, 15, 20, 21, 30, 31, 37, 42 and 43 are allowable over the cited art, alone or in combination.

New Independent Claims 47-50

New independent claims 47-50 recite features substantially similar to those described above with respect to other pending independent claims. Therefore, the arguments provided above are further asserted for new independent claims 47-50, which are submitted to patentably distinguish over the prior art for at least the reasons provided herein.

CONCLUSION

In light of the amendments contained herein, Applicants submit that the application is in condition for allowance, for which early action is requested.

Please charge any fees or overpayments that may be due with this response to Deposit Account No. 17-0026.

Respectfully submitted,

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By: /Peng Zhu/

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Peng Zhu, Reg. No. 48,063
(858) 658-2389

QUALCOMM Incorporated
Attn: Patent Department
5775 Morehouse Drive
San Diego, California 92121-1714
Telephone: (858) 658-5787
Facsimile: (858) 658-2502
SDO 84453-2.079916.0090